

IN THE CLAIMS:

Please cancel claims 1-60 without prejudice or disclaimer, and substitute new claims 61-120 therefor as follows:

Claims 1-60 (Cancelled).

61. (New) A thermoplastic elastomeric material comprising:

(a) 10% by weight to 100% by weight of at least one styrene-based thermoplastic elastomer;

(b) 0% by weight to 90% by weight of at least one thermoplastic α -olefin homopolymer or copolymer different from (a),

the amount of (a) + (b) being 100;

(c) 2 parts by weight to 90 parts by weight of a vulcanized rubber in a subdivided form; and

(d) 0.01 part by weight to 10 parts by weight of at least one coupling agent containing at least one ethylenic unsaturation,

the amounts of (c) and (d) being expressed with respect to 100 parts by weight of (a) + (b).

62. (New) The thermoplastic elastomeric material according to claim 61, comprising:

(a) 20% by weight to 80% by weight of at least one styrene-based thermoplastic elastomer; and

- (b) 20% by weight to 80% by weight of at least one thermoplastic α -olefin homopolymer or copolymer different from (a),

the amount of (a) + (b) being 100.

63. (New) The thermoplastic elastomeric material according to claim 61, wherein the vulcanized rubber in a subdivided form (c) is present in an amount of 5 parts by weight to 40 parts by weight with respect to 100 parts by weight of (a) + (b).

64. (New) The thermoplastic elastomeric material according to claim 61, wherein the coupling agent is present in an amount of 0.05 parts by weight to 5 parts by weight with respect to 100 parts by weight of (a) + (b).

65. (New) The thermoplastic elastomeric material according to claim 61, wherein the styrene-based thermoplastic elastomer (a) comprises at least two terminal poly(monovinylaromatic hydrocarbon) blocks and at least one internal poly(conjugated diene) block and/or poly(aliphatic α -olefin) block.

66. (New) The thermoplastic elastomeric material according to claim 65, wherein the styrene-based thermoplastic elastomer (a) is selected from block copolymers having the following formulae: $A(BA)_m$, $A(BA')_{m'}$, or $(AB)_nX$, or $(AB)_pX(A'B')_q$ or $(AB)_rX(B'')_s$, wherein each of A and A' independently represent a polymer block comprising a monovinylidene aromatic monomer; B, B' and B'' independently represent a polymer block comprising a conjugated diene monomer and/or an aliphatic α -olefin monomer; X represents a polyfunctional bridging moiety; n and r represent an integer not lower than 2; and m and m' represent an integer ≥ 1 ; p, q and s represent an integer ≥ 1 .

67. (New) The thermoplastic elastomeric material according to claim 66, wherein the monovinylidene aromatic monomer of blocks A and A' is selected from: styrene, alkyl-substituted styrenes, alkoxy-substituted styrenes, vinyl naphthalene, alkyl-substituted vinyl naphthalene, vinyl xylene, alkyl-substituted vinyl xylene, or mixtures thereof.

68. (New) The thermoplastic elastomeric material according to claim 66, wherein the conjugated diene monomer of blocks B, B' and B'', is selected from conjugated dienes containing from 4 to 24 carbon atoms, 1, 3-butadiene, isoprene, 2-ethyl-1, 3-butadiene, 2, 3-dimethyl-1, 3-butadiene, 2- phenyl-1, 3-butadiene, 1, 3—pentadiene, methylpentadiene, 3-ethyl-1, 3-pentadiene, 2, 4-hexadiene, 3, 4-dimethyl-1, 3-hexadiene, 4, 5-diethyl-1, 3-octadiene, piperylene, or mixtures thereof.

69. (New) The thermoplastic elastomeric material according to claim 66, wherein the aliphatic α -olefin monomer is selected from ethylene, propylene, or mixtures thereof.

70. (New) The thermoplastic elastomeric material according to claim 66, wherein the polyfunctional bridging moiety comprises from 2 to 8 functional groups.

71. (New) The thermoplastic elastomeric material according to claim 66, wherein the block copolymers are selectively hydrogenated.

72. (New) The thermoplastic elastomeric material according to claim 66, wherein the blocks A and A' have a weight average molecular weight of 3,000 g/mol to 125,000 g/mol.

73. (New) The thermoplastic elastomeric material according to claim 66, wherein the blocks B, B' and B'' have a weight average molecular weight of 10,000 g/mol to 300,000 g/mol.
74. (New) The thermoplastic elastomeric material according to claim 66, wherein the block copolymers have a total weight average molecular weight of 25,000 to 500,000.
75. (New) The thermoplastic elastomeric material according to claim 66, wherein the block copolymer has a triblock structure and may be of the linear or radial type, or any combination thereof.
76. (New) The thermoplastic elastomeric material according to claim 66, wherein the styrene-based thermoplastic elastomer (a) is selected from the following triblock copolymers: styrene-butadiene-styrene (S-B-S), styrene-isoprene-styrene (S-I-S), styrene-ethylene/butene-styrene (S-EB-S), or mixtures thereof.
77. (New) The thermoplastic elastomeric material according to claim 61, wherein in the thermoplastic α -olefin homopolymer or copolymer (b) is different from (a), the α -olefin is an aliphatic or aromatic α -olefin of formula $\text{CH}_2=\text{CH-R}$, wherein R represents a hydrogen atom, a linear or branched alkyl group containing from 1 to 12 carbon atoms, or an aryl group having from 6 to 14 carbon atoms.
78. (New) The thermoplastic elastomeric material according to claim 77, wherein the aliphatic α -olefin is selected from: ethylene, propylene, 1-butene, isobutylene, 1-pentene, 1-hexene, 3-methyl-1-butene, 3-methyl-1-pentene, 4-methyl-1-pentene, 4-methyl-1-hexene, 4, 4-dimethyl-1-hexene, 4,4-dimethyl-1-pentene, 4-ethyl-1-hexene, 3-

ethyl-1-hexene, 1-octene, 1-decene, 1-dodecene, 1-tetradecene, 1-hexadecene, 1-octadecene, 1-eicosene, or mixture thereof.

79. (New) The thermoplastic elastomeric material according to claim 77, wherein the aromatic α -olefin is selected from: styrene, α -methylstyrene, or mixtures thereof.

80. (New) The thermoplastic elastomeric material according to claim 77, wherein the thermoplastic α -olefin homopolymer or copolymer (b) is selected from:

propylene homopolymers or copolymer of propylene with ethylene and/or an α -olefin having 4 to 12 carbon atoms with an overall content of ethylene and/or α -olefin lower than 10% by mole;

ethylene homopolymers or copolymers of ethylene with at least one α -olefin having 4 to 12 carbon atoms and, optionally, at least one polyene;

styrene polymers, styrene homopolymers, copolymers of styrene with at least one C₁-C₄ alkyl-styrene or with at least one natural or synthetic elastomer, polybutadiene, polyisoprene, butyl rubber, ethylene/propylene/diene copolymer (EPDM), ethylene/propylene copolymers (EPR), natural rubber, or epichlorohydrin;

copolymers of ethylene with at least one ethylenically unsaturated ester selected from: alkyl acrylates, alkyl methacrylates and vinyl carboxylate, wherein the alkyl group, linear or branched, has 1 to 8 carbon atoms, while the carboxylate group, linear or branched, has 2 to 8 carbon atoms; and wherein the ethylenically

unsaturated ester is generally present in an amount of 0.1% to 80% by weight with respect to the total weight of the copolymer.

81. (New) The thermoplastic elastomeric material according to claim 80, wherein the ethylene homopolymers or copolymers of ethylene with at least one α -olefin having 4 to 12 carbon atoms are selected from: low density polyethylene (LDPE), medium density polyethylene (MDPE), high density polyethylene (HDPE), linear low density polyethylene (LLDPE), ultra-low density polyethylene (ULDPE), or mixtures thereof.

82. (New) The thermoplastic elastomeric material according to claim 80, wherein the copolymers of ethylene with at least one α -olefin having 4 to 12 carbon atoms, and optionally at least one polyene, are selected from:

elastomeric copolymers having the following monomer composition: 35 mol%-90 mol% of ethylene; 10 mol%-65 mol% of an aliphatic α -olefin; and 0 mol%-10 mol% of a polyene; and

copolymers having the following monomer composition: 75 mol%-97 mol% of ethylene; 3 mol%-25 mol% of an aliphatic α -olefin; and 0 mol%-5 mol% of a polyene.

83. (New) The thermoplastic elastomeric material according to claim 80, wherein the styrene polymers, different from (a), are: syndiotactic polystyrene, atactic polystyrene, isotactic polystyrene, styrene-methylstyrene copolymer, styrene-isoprene copolymer or styrene-butadiene copolymer, styrene-ethylene/propylene (S-EP) or styrene-

ethylene/butene (S-EB) diblock copolymers; styrene-butadiene or styrene-isoprene branched copolymers; or mixtures thereof.

84. (New) The thermoplastic material according to claim 80, wherein the copolymers of ethylene with at least one ethylenically unsaturated ester are selected from: ethylene/vinylacetate copolymer (EVA), ethylene/ethylacrylate copolymer (EEA), ethylene/butylacrylate copolymer (EBA), or mixtures thereof.

85. (New) The thermoplastic elastomeric material according to claim 61, wherein the vulcanized rubber in a subdivided form (c) has a particle size not higher than 10 mm.

86. (New) The thermoplastic elastomeric material according to claim 85, wherein the vulcanized rubber in a subdivided form (c) has a particle size not higher than 5 mm.

87. (New) The thermoplastic elastomeric material according to claim 61, wherein the vulcanized rubber in a subdivided form (c) has a particle size not higher than 0.5 mm.

88. (New) The thermoplastic elastomeric material according to claim 87, wherein the vulcanized rubber in a subdivided form (c) has a particle size not higher than 0.2 mm.

89. (New) The thermoplastic elastomeric material according to claim 88, wherein the vulcanized rubber in a subdivided form (c) has a particle size not higher than 0.1 mm.

90. (New) The thermoplastic elastomeric material according to claim 61, wherein the vulcanized rubber in a subdivided form (c) comprises at least one crosslinked diene elastomeric polymer or copolymer of natural origin or obtained by solution polymerization, emulsion polymerization or gas-phase polymerization of one or more

conjugated diolefins, optionally blended with at least one comonomer selected from monovinylarenes and/or polar comonomers in an amount of not more than 60% by weight.

91. (New) The thermoplastic elastomeric material according to claim 90, wherein the crosslinked diene elastomeric polymer or copolymer is selected from: cis-1, 4-polyisoprene, 3, 4-polyisoprene, polybutadiene, optionally halogenated isoprene/isobutene copolymers, 1, 3-butadiene/acrylonitrile copolymers, styrene/1, 3-butadiene copolymers, styrene/isoprene/1, 3-butadiene copolymers, styrene/1, 3-butadiene/acrylonitrile copolymers, or mixtures thereof.

92. (New) The thermoplastic elastomeric material according to claim 61, wherein the vulcanized rubber in a subdivided form (c) further comprises at least one crosslinked elastomeric polymer of one or more monoolefins with an olefinic comonomer or derivatives thereof.

93. (New) The thermoplastic elastomeric material according to claim 92, wherein the crosslinked elastomeric polymer is selected from: ethylene/propylene copolymers (EPR) or ethylene/propylene/diene copolymers (EPDM), polyisobutene, butyl rubbers, halobutyl rubbers, chlorobutyl rubbers, bromobutyl rubbers, or mixtures thereof.

94. (New) The thermoplastic elastomeric material according to claim 61, wherein the coupling agent containing at least one ethylenic unsaturation (d) is selected from: silane compounds containing at least one ethylenic unsaturation and at least one hydrolyzable group; epoxides containing at least one ethylenic unsaturation;

monocarboxylic acids or dicarboxylic acids containing at least one ethylenic unsaturation, or derivatives thereof or organic titanates, zirconates or aluminates containing at least one ethylenic unsaturation.

95. (New) The thermoplastic elastomeric material according to claim 94, wherein the silane compounds are selected from: γ -methacryloxypropyltrimethoxysilane, methyltriethoxy-silane, methyltris (2-methoxyethoxy) silane, dimethyl-diethoxysilane, vinyltris (2-methoxyethoxy) silane, vinyltrimethoxysilane, vinyltriethoxysilane, octyltriethoxysilane, isobutyltriethoxysilane, isobutyl-trimethoxysilane, or mixtures thereof.

96. (New) The thermoplastic elastomeric material according to claim 94, wherein the epoxides are selected from: glycidyl acrylate, glycidyl methacrylate, monoglycidly ester of itaconic acid, glycidyl ester of maleic acid, vinyl glycidyl ether, allyl glycidyl ether, or mixtures thereof.

97. (New) The thermoplastic elastomeric material according to claim 94, wherein the monocarboxylic or dicarboxylic acids, or derivatives thereof, are selected from: maleic acid, maleic anhydride, fumaric acid, citraconic acid, itaconic acid, acrylic acid, methacrylic acid, and anhydrides or esters derived therefrom, or mixtures thereof.

98. (New) The thermoplastic elastomeric material according to claim 61, further comprising (e) at least one aromatic monocarboxylic or dicarboxylic acid or a derivative thereof, an anhydride derivative thereof or an ester derivative thereof.

99. (New) The thermoplastic elastomeric material according to claim 98, wherein the aromatic monocarboxylic or dicarboxylic acid or a derivative thereof is selected from:

benzoic acid, phthalic acid, phthalic anhydride, trimellitic anhydride, di-2-ethylhexyl phthalate, di-isodecyl phthalate, tris-2-ethylhexyl trimellitate, or mixtures thereof.

100. (New) The thermoplastic elastomeric material according to claim 98 wherein the aromatic monocarboxylic or dicarboxylic acid or a derivative thereof is present in an amount of 0 part by weight to 10 parts by weight with respect to 100 parts by weight of (a) + (b).

101. (New) The thermoplastic elastomeric material according to claim 100, wherein the aromatic monocarboxylic or dicarboxylic acid or a derivative thereof is present in an amount of 0.01 part by weight to 5 parts by weight with respect to 100 parts by weight of (a) + (b).

102. (New) The thermoplastic elastomeric material according to claim 61, further comprising at least one inorganic filler.

103. (New) The thermoplastic elastomeric material according to claim 102, wherein the inorganic filler is selected from: hydroxides, hydrated oxides, salts or hydrated salts of metals, calcium salts of metals, magnesium salts of metals or aluminium salts of metals, optionally in admixture with other inorganic fillers, silicates, carbon black, or mixtures thereof.

104. (New) The thermoplastic elastomeric material according to claim 103, wherein the inorganic fillers are: magnesium hydroxide, aluminium hydroxide, aluminium oxide, aluminium trihydrate, magnesium carbonate hydrate, magnesium carbonate, calcium

carbonate hydrate, calcium carbonate, magnesium calcium carbonate hydrate, magnesium calcium carbonate, or mixture thereof.

105. (New) The thermoplastic elastomeric material according to claim 102, wherein the inorganic filler is present in an amount 0 part by weight to 200 parts by weight with respect to 100 parts by weight of (a) + (b).

106. (New) The thermoplastic elastomeric material according to claim 105, wherein the inorganic filler is present in an amount of 10 parts by weight to 50 parts by weight, with respect to 100 parts by weight of (a) + (b).

107. (New) The thermoplastic elastomeric material according to claim 61, further comprising at least one syndiotactic 1, 2-polybutadiene.

108. (New) The thermoplastic elastomeric material according to claim 107, wherein the syndiotactic 1, 2-polybutadiene has an average molecular weight (number-average) of 75,000 to 200, 000.

109. (New) The thermoplastic elastomeric material according to claim 107, wherein the 1, 2-polybutadiene has a crystallinity degree of 10% to 90%.

110. (New) The thermoplastic elastomeric material according to claim 107, wherein the syndiotactic 1, 2- polybutadiene is present in an amount of 0 part by weight to 300 parts by weight with respect to the 100 parts by weight of (a) + (b).

111. (New) The thermoplastic elastomeric material according to claim 110, wherein the syndiotactic 1, 2-polybutadiene is present in an amount of 5 parts by weight to 200 parts by weight, with respect to the 100 parts by weight of (a) + (b).

112. (New) The thermoplastic elastomeric material according to claim 61, further comprising a radical initiator.

113. (New) The thermoplastic elastomeric material according to claim 112, wherein the radical initiator is selected from organic peroxides, t-butyl perbenzoate, dicumyl peroxide, benzoyl peroxide, di-t-butyl peroxide, or mixtures thereof.

114. (New) The thermoplastic elastomeric material according to claim 112, wherein the radical initiator is added in an amount of 0 part by weight to 5 parts by weight with respect to 100 parts by weight of (a) + (b).

115. (New) The thermoplastic elastomeric material according to claim 114, wherein the radical initiator is added in an amount of 0.01 part by weight to 2 parts by weight with respect to 100 parts by weight of (a) + (b).

116. (New) The thermoplastic elastomeric material according to claim 61, wherein the styrene-based thermoplastic elastomer (a) comprises conjugated diene monomers and the thermoplastic elastomeric material is substantially devoid of a radical initiator.

117. (New) A manufactured product obtained by molding a thermoplastic elastomeric material according to claim 61.

118. (New) A manufactured product comprising a thermoplastic elastomeric material according to claim 61.

119. (New) The manufactured product according to claim 117, comprising shoe soles, shoe foxing, or shoe innersoles.

120. (New) The manufactured product according to claim 117, comprising belts; flooring and footpaths; flooring tiles; mats; shock absorbers; sheetings; sound barriers; membrane protections; carpet underlay; automotive bumpers; wheel arch liner; seals; o-rings; gaskets; watering systems; pipes or hoses materials; flower pots; building blocks; roofing materials; or geomembranes.